UNITED STATES PATENT OFFICE.

MOMME ANDRESEN AND ERNST LEUPOLD, OF BERLIN, GERMANY, ASSIGNORS TO THE ACTIEN-GESELLSCHAFT FÜR ANILIN FABRIKATION, OF SAME PLACE.

PROCESS OF INTENSIFYING PHOTOGRAPHS.

SPECIFICATION forming part of Letters Patent No. 641,919, dated January 23, 1900.

Application filed July 20, 1899. Serial No. 724,569. (No specimens.)

To all whom it may concern:

Be it known that we, MOMME ANDRESEN and ERNST LEUPOLD, of Berlin, in the Kingdom of Prussia, German Empire, have invented new and useful Improvements in Intensifying Photographic Silver Prints; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

For intensifying photographic silver prints, (negatives or positives,) especially in the negative process, with gelatine silver bromid two methods have heretofore principally been used. The first method consists in using mercuric chlorid as intensifier, by the action of which the black silver print is first bleached, assuming a greater transparency. After washing thoroughly the print is again densified and darkened by treatment with ammonia or sodium sulfite, whereupon it is washed once more. The second method consists in using as intensifiers uranium salts. This process only requires one operation. However, the intensive red-brown color produced in the print by the action of the uranium salts is not at all stable, and besides the degree of the intensification attained cannot be safely calculated. Moreover, the uranium intensifier does not keep, but is decomposed in a short time. We have now found that the double salts of mercuric sulfocyanid yield solutions which keep well and which intensify the photographic silver print with black color in a single operation. Of the double salts of mercuric sulfocyanid, especially those formed with sulfocyanids or with chlorids of the alkalies, alkaline earths or ammonia or mixtures of the same can be practically used.

The proportions in which we dissolve the above constituents in order to produce the new intensifiers are not exactly those calculated for the formation of the double salts from equimolecular quantities of mercuric sulfocyanid with the sulfocyanids or chlorids of the before-mentioned alkalies, since an excess of the alkali salts has been found suitable, as the mixtures so obtained are easier soluble in water and more stable in aqueous solution than are the pure double salts.

The invention is illustrated by the following examples:

First. Ten parts of mercuric sulfocyanid and eight parts of potassium sulfocyanid are dissolved in one hundred parts of distilled water. This stock solution, which can be kept without decomposing, is diluted with ten parts of water for use as intensifier. The negative or positive which needs intensifying is placed into the diluted solution and left therein, while preferably keeping the liquid in motion until the desired degree of intensification is reached. The intensified negative or positive is then washed and dried.

Second. Ten parts of mercuric sulfocyanid and ten parts of sodium chlorid are dissolved in fifty parts of water. For use as intensifier this stock solution is diluted with ten parts of water.

Third. Ten parts of the double salt of mercuric sulfocyanid with potassium sulfocyanid and six parts of sodium chlorid are dissolved in fifty parts of water. For use as intensifier this stock solution is diluted with ten parts of water.

Having now described our invention and in what manner the same can be performed, what we claim as new is—

The process herein described of intensifying photographic silver prints, which consists in subjecting the prints to the action of the herein-described solutions containing double salts of mercuric sulfocyanid.

In witness whereof we have hereunto signed our names, this 5th day of July, 1899, in the presence of two subscribing witnesses.

MOMME ANDRESEN.
ERNST LEUPOLD.

Witnesses:
HENRY HASPER,
WOLDEMAR HAUPT.